

## Chiccine, Catherine

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**From:** Chiccine, Catherine  
**Sent:** Monday, October 24, 2022 8:21 AM  
**To:** Knowles, Susan B  
**Subject:** FW: Attendees List and Presentation - 212 Environmental  
**Attachments:** 20221021\_MissouriDNR-StCharles\_Meeting.pdf

FYI

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**From:** Jurgens, Bob <[Jurgens.Bob@epa.gov](mailto:Jurgens.Bob@epa.gov)>  
**Sent:** Monday, October 24, 2022 8:15 AM  
**To:** Chiccine, Catherine <[chiccine.catherine@epa.gov](mailto:chiccine.catherine@epa.gov)>; Humphrey, Leslie <[Humphrey.Leslie@epa.gov](mailto:Humphrey.Leslie@epa.gov)>; Adkins, Tabatha <[Adkins.Tabatha@epa.gov](mailto:Adkins.Tabatha@epa.gov)>; Carey, Curtis <[Carey.Curtis@epa.gov](mailto:Carey.Curtis@epa.gov)>  
**Subject:** FW: Attendees List and Presentation - 212 Environmental

FYI forwarded from MoDNR. Keep in mind this is based on the City interpretation of the data, some which hasn't been shared with EPA.

**Bob Jurgens** | Director  
Superfund and Emergency Management Division  
U.S. Environmental Protection Agency  
Region 7 (Kansas, Missouri, Nebraska, Iowa & Nine Tribes)  
(913) 551-7283  
[epa.gov](https://epa.gov) | [epa.gov/region7](https://epa.gov/region7)

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**From:** Humphrey, Hannah <[hannah.humphrey@dnr.mo.gov](mailto:hannah.humphrey@dnr.mo.gov)>  
**Sent:** Friday, October 21, 2022 4:42 PM  
**To:** Jurgens, Bob <[Jurgens.Bob@epa.gov](mailto:Jurgens.Bob@epa.gov)>  
**Subject:** FW: Attendees List and Presentation - 212 Environmental

Bob,

Here are the slides that the city of St. Charles' consultant shared with us today (participating for DNR were me, Dru Buntin, Carey Bridges, TJ Graven, Feyi Ilesanmi, and Brenna McDonald. We've followed up with a request for documentation and data from the city, and committed to following up with them on Monday. I know our staff will work together well to try to forge a path forward that has us, EPA and the city sharing information and ensures the city has safe drinking water, but feel free to contact me if you want to touch base.

Sincerely,

Hannah Humphrey  
Deputy Director  
Missouri Department of Natural Resources  
(573) 751-7052

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**From:** Bridges, Carey <[carey.bridges@dnr.mo.gov](mailto:carey.bridges@dnr.mo.gov)>  
**Sent:** Friday, October 21, 2022 1:33 PM

**To:** Buntin, Dru <[Dru.Buntin@dnr.mo.gov](mailto:Dru.Buntin@dnr.mo.gov)>; Moore, Kyra <[kyra.moore@dnr.mo.gov](mailto:kyra.moore@dnr.mo.gov)>

**Cc:** Humphrey, Hannah <[hannah.humphrey@dnr.mo.gov](mailto:hannah.humphrey@dnr.mo.gov)>

**Subject:** FW: Attendees List and Presentation - 212 Environmental

FYI – sharing today's presentation from St. Charles' consultant.

Thank you,

**Carey Bridges, R.G.**

**Deputy Director, Division of Environmental Quality**

Missouri Department of Natural Resources

phone: (573) 751-0763

[carey.bridges@dnr.mo.gov](mailto:carey.bridges@dnr.mo.gov)

*We'd like your feedback on the service you received from the Missouri Department of Natural Resources. Please consider taking a few minutes to complete the department's Customer Satisfaction Survey at <https://www.surveymonkey.com/r/MoDNRsurvey>. Thank you.*

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**From:** Ilesanmi, Olufeyisayo <[Feyi.ilesanmi@dnr.mo.gov](mailto:Feyi.ilesanmi@dnr.mo.gov)>

**Sent:** Friday, October 21, 2022 1:05 PM

**To:** Bridges, Carey <[carey.bridges@dnr.mo.gov](mailto:carey.bridges@dnr.mo.gov)>; Humphrey, Hannah <[hannah.humphrey@dnr.mo.gov](mailto:hannah.humphrey@dnr.mo.gov)>

**Cc:** Graven, TJ <[tj.graven@dnr.mo.gov](mailto:tj.graven@dnr.mo.gov)>; Weis, Brent <[Brent.Weis@dnr.mo.gov](mailto:Brent.Weis@dnr.mo.gov)>; McDonald, Brenna <[brenna.mcdonald@dnr.mo.gov](mailto:brenna.mcdonald@dnr.mo.gov)>

**Subject:** FW: Attendees List and Presentation - 212 Environmental

Dear Hannah/ Carey

Thank you for the main meeting with the City of St Charles and the follow up meeting with the team. Please find attached the presentation for today documenting the City's request. I will work with PDW and MGS to complete the other tasks.

***Feyi***

**Olufeyisayo Ilesanmi, Ph.D.**

Project Manager, Superfund

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*We'd like your feedback on the service you received from the Missouri Department of Natural Resources. Please consider taking a few minutes to complete the department's Customer Satisfaction Survey at <https://www.surveymonkey.com/r/MoDNRsurvey>. Thank you.*

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**From:** Todd Aseltyne <[todd.aseltyne@212environmental.com](mailto:todd.aseltyne@212environmental.com)>  
**Sent:** Friday, October 21, 2022 12:19 PM  
**To:** Ilesanmi, Olufeyisayo <[Feyi.ilesanmi@dnr.mo.gov](mailto:Feyi.ilesanmi@dnr.mo.gov)>  
**Cc:** Paul Michalski <[paul.michalski@212environmental.com](mailto:paul.michalski@212environmental.com)>; Nicholas Galla <[Nicholas.Galla@stcharlescitymo.gov](mailto:Nicholas.Galla@stcharlescitymo.gov)>; Michael Cullen <[Michael.Cullen@stcharlescitymo.gov](mailto:Michael.Cullen@stcharlescitymo.gov)>  
**Subject:** Attendees List and Presentation - 212 Environmental

Feyi-

Below is the list of attendees form 212 Environmental Consulting and the City of St. Charles from today's meeting:

**City of St. Charles**

Dan Borgmeyer  
Larry Dobrosky  
Larry Perney  
Beth Norviel  
Nick Galla  
John Phillips  
Brad Temme  
Mike Cullen

**212 Environmental Consulting**

Paul Michalski  
Todd Aseltyne

Attached is a copy of the presentation that was requested. If you have any questions, please feel free to contact me.

Thanks,  
Todd

**Todd Aseltyne, P.G.**  
Geologist

**212 Environmental Consulting, LLC.**  
1776 Mentor Avenue  
Cincinnati, Ohio 45212

419-309-0603  
[todd.aseltyne@212environmental.com](mailto:todd.aseltyne@212environmental.com)



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# Review of Contamination in the Elm Point Wellfield

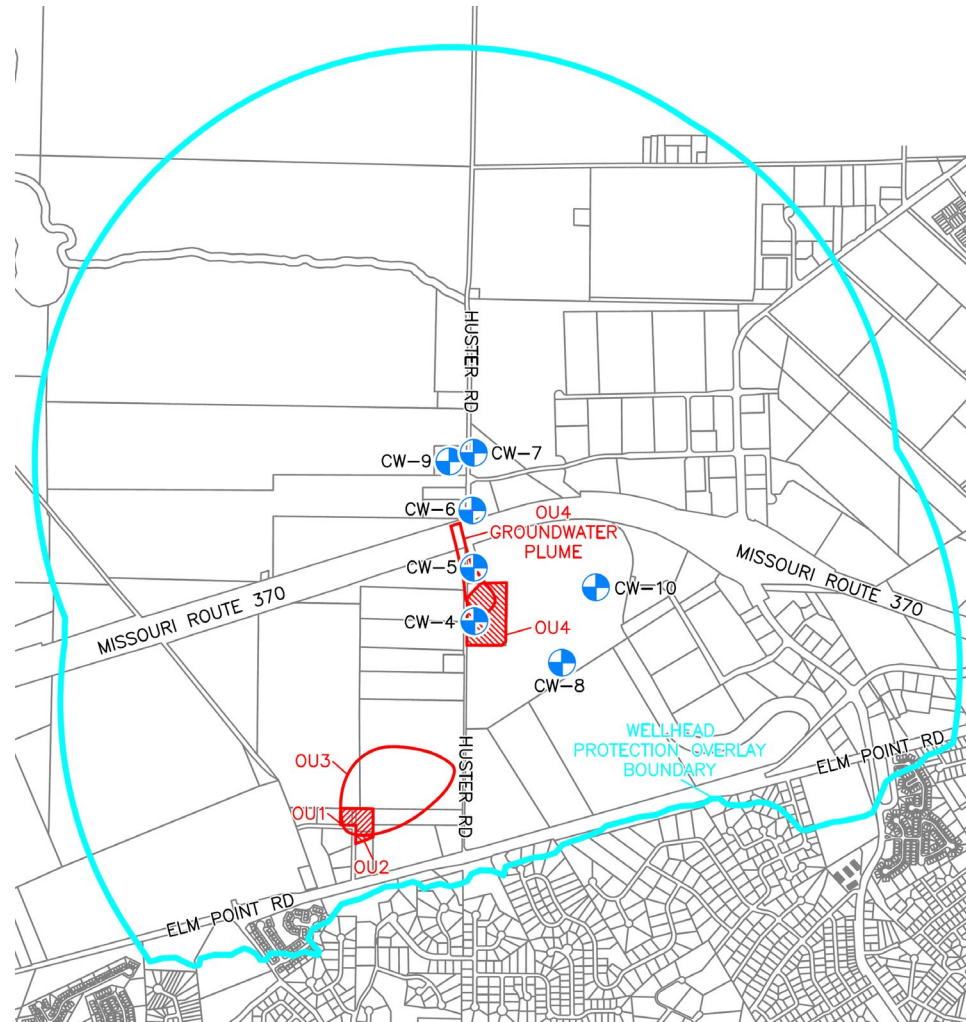
Missouri Department of Natural Resources  
City of St. Charles  
212 Environmental Consulting, LLC

October 21, 2022



# ELM POINT WELLFIELD OVERVIEW

- Serves as the drinking water resource for the City of St. Charles, Missouri
  - Seven groundwater production wells with a maximum capacity of 8.7 million gallons per day
- Historical releases from three properties located within the Elm Point Wellfield have threatened this resource
  - Findett Service Company
  - Cadmus Corporation
  - Ameren Missouri
- Operation of four St. Charles Production Wells discontinued due to contamination
  - CW-4 – shut down in 2005
  - CW-5 – shut down in 2011
  - CW-6 – shut down in 2022
  - CW-8 – shut down in 2022
- **City of St. Charles is unable to meet current demand for drinking water**



# ADMINISTRATIVE TIMELINE HAYFORD BRIDGE SUPERFUND SITE

Site discovered by USEPA	1976
Findett conducted first quench pond soil excavation	1977
Findett conducted second quench pond soil excavation	1981
Findett conducted polychlorinated biphenyl investigation	1982-1984
USEPA proposed site for National Priorities List	1984
USEPA conducted Remedial Investigation/Feasibility Study at OU1	1987-1988
USEPA signed Record of Decision for OU1 selected remedy	1988
USEPA removed site from NPL candidacy	1989
Findett signed Consent Decree to conduct OU1 selected remedy	1990
Findett implemented OU1 groundwater extraction and treatment system	1991
USEPA signed OU1 ROD Amendment to allow soils bioremediation	1995
USEPA signed OU2 removal Decision Document	1995
Findett implemented OU1 soils bioremediation	1999
RP signed Administrative Order on Consent to conduct the OU2 Removal Action	2000
RP completed OU2 soil removal action	2001
RP signed AOC to conduct Remedial Investigation/Feasibility Study for OU3	2001
Findett ended OU1 soils bioremediation and completed excavation	2002
RP conducted OU3 Remedial Investigation/Feasibility Study	2002-2005
USEPA signed ROD for OU3 selected remedy	2005
RP sign Consent Decree to conduct OU3 selected remedy	2007
Explosion in process building at OU1 ends onsite business	2009
USEPA invoked the Emergency Contingency Plan Response in response to contamination in the Elm Point Wellfield	2011
Emergency Action Response for OU3 approved by USEPA	2011
<b>RPs identified alternative source on the Ameren Huster Road substation</b>	<b>2011-2012</b>
RP issued Expansion Evaluation Report for the Elm Point Wellfield	2012
<b>Ameren invited to join the Settlement Agreement, but declined</b>	<b>2012</b>
USEPA issued an Enforcement Action Memorandum to investigate possible contamination from the Substation	2012
RP entered into an Administrative Settlement Agreement and Order on Consent to perform emergency response	2012
<b>Ameren entered into a Settlement Agreement and Order on Consent to investigate contamination from the Substation</b>	<b>2012</b>
USEPA issued an Amendment to the Enforcement Action Memorandum to address confirmed contamination from the Substation	2013
<b>USEPA issued a Notice of Completion of Work to the RPs for work not completed under the 2012 Settlement Agreement</b>	<b>2015</b>
<b>USEPA terminated the 2012 Administrative Settlement Agreement and Order on Consent for the RPs and Ameren</b>	<b>2015</b>
USEPA signed Record of Decision for OU4 selected remedy	2021
<b>USEPA lodged Consent Decree for OU4 selected remedy</b>	<b>2022</b>

# AGREED ENFORCEMENT ACTIONS

- Record of Decision for Operable Unit 3 executed in September 2005 identified the selected remedy:
  - > Natural Attenuation of residual sources
  - > Routine monitoring to demonstrate protection of City of St. Charles Wellfield
    - Point of Compliance Monitoring Wells
    - City of St. Charles Production Wells
    - Influent into the City of St. Charles Water Treatment Plant
  - > Upgrade to the City of St. Charles Municipal Water Treatment Plant
  - > Development of a Contingency Plan
  - > Recording of institutional controls including prohibition of potable wells and land use restrictions
- Amendment to Enforcement Action Memorandum for Responsible Parties dated March 2013
  - > Installation and operation of temporary containment well
  - > Design for air stripper within the City of St. Charles municipal water treatment plant
  - > Replacement of City of St. Charles potable water supply wells
- Record of Decision for Operable Unit 4 executed in June 2021 and included the following selected remedy:
  - > Continued enhanced bioaugmentation and attenuation of contaminants
  - > Discontinuing operation of the groundwater extraction and treatment systems
  - > Implementation institutional controls including prohibition of potable wells and land use restrictions



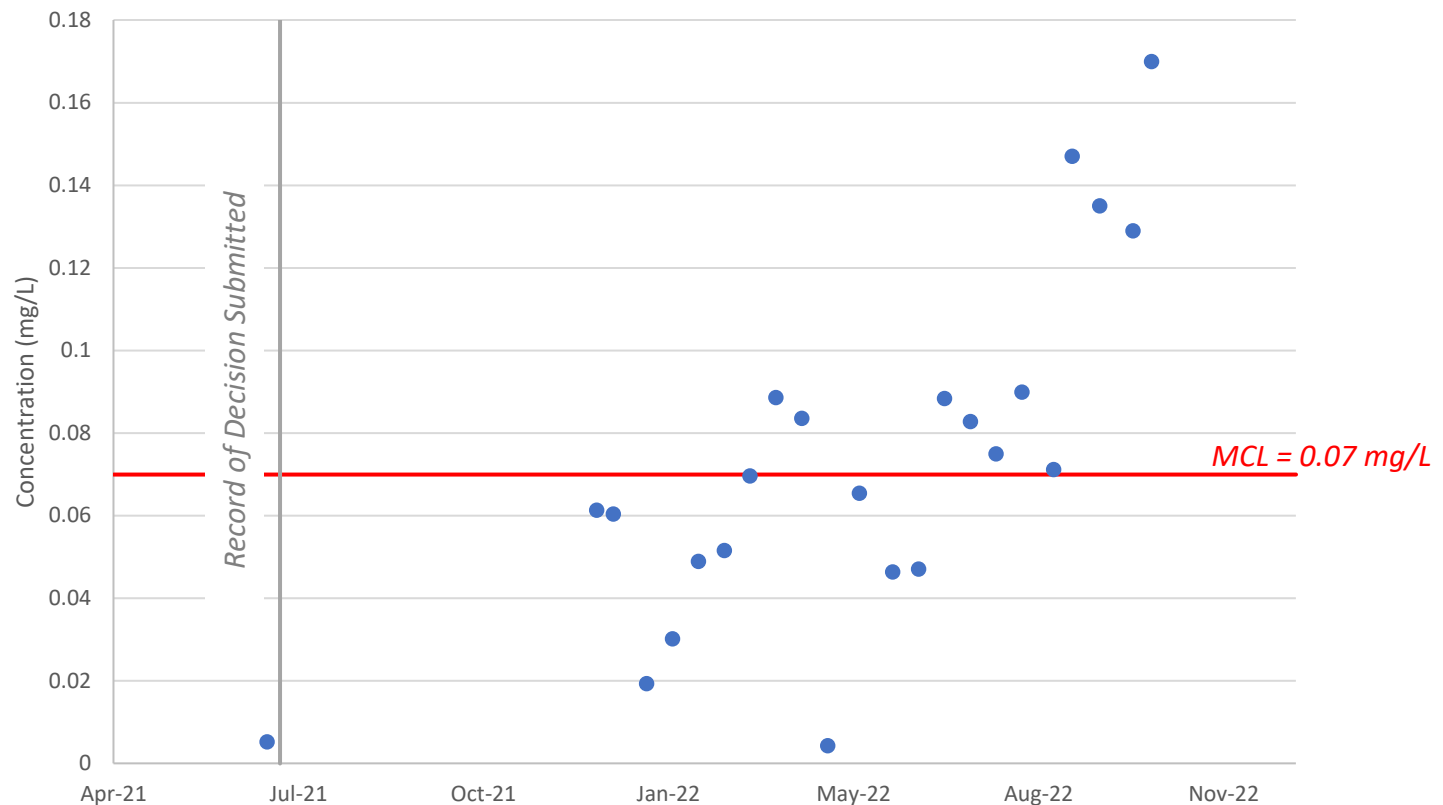
# CITY OF ST. CHARLES' COMMENTS AND USEPA RESPONSES TO THE OU<sub>4</sub> RECORD OF DECISION

- City of St. Charles provided comments in February 2021
  - > Recommend additional monitoring wells between substation property and CW-8 and CW-10
  - > Enhancements to the Ameren's extraction rate or a new extraction well further north to protect production wells
  - > Responsible parties should provide replacement production wells
- USEPA Response to comments from the City of St. Charles included:
  - > "The EPA does not agree that current data indicates Ameren should install (production) wells. Current data shows that the groundwater plume is fully contained within the Substation and that degradation of the contaminant plume is occurring."
  - > "We appreciate the City's stance on not wanting any detections of chloroethenes in its public drinking water, but the Safe Drinking Water Act Maximum Contaminant Levels, which are applicable requirements for this Superfund Site, were promulgated to assure the public that contaminants below these levels are safe."
  - > "The comment to add additional monitoring wells was discussed...Ameren would update its Conceptual Site Model (CSM)...Further consideration of the need for additional wells will be dependent upon the results from the updated CSM."
- The USEPA did not make any changes to the selected remedy as a result of the comments from the City of St. Charles



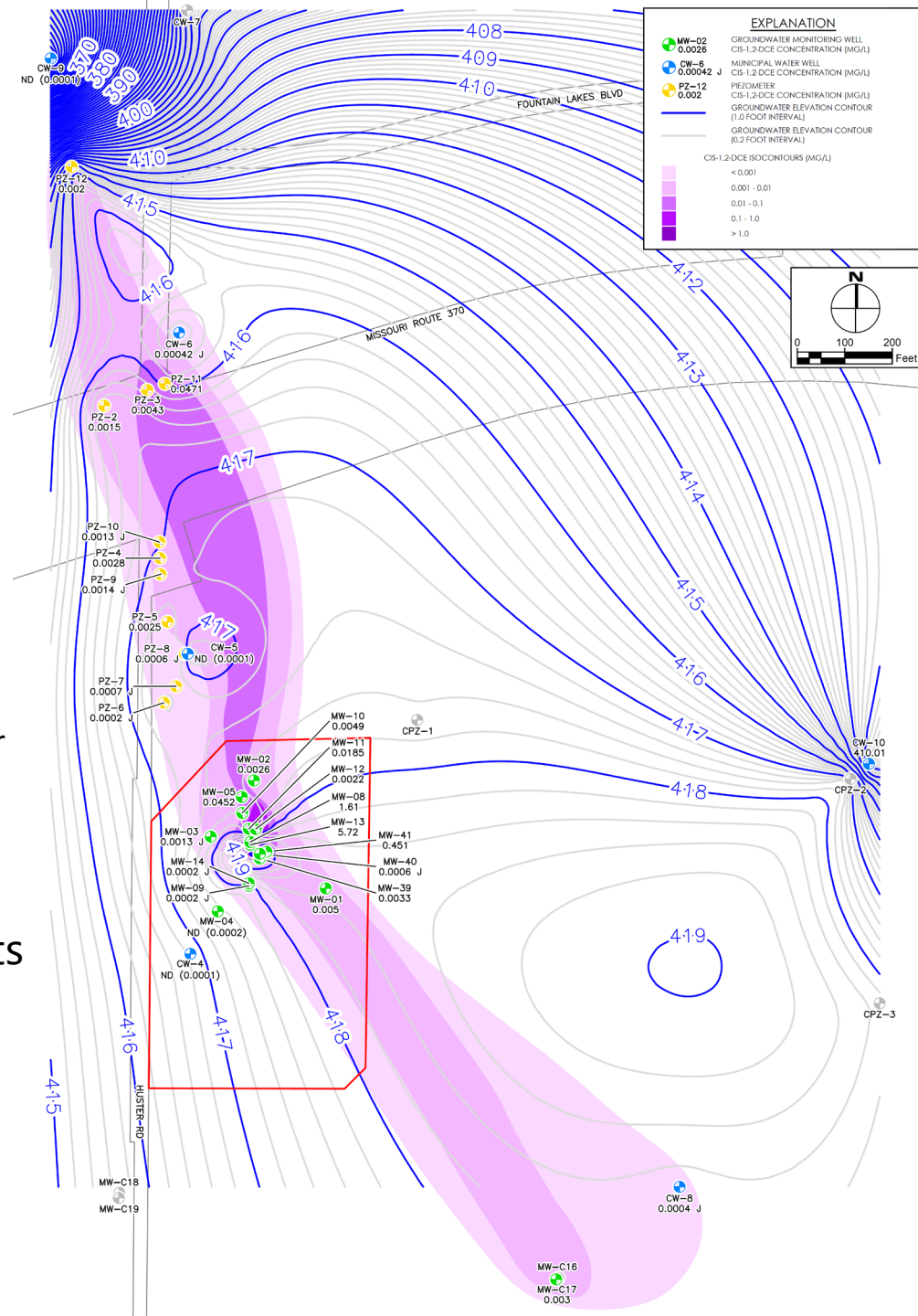
# MONITORING WELLS

- Monitoring well PZ-11 is located approximately 100 feet southwest of drinking water well CW-6
- Monitoring well MW-C17 is located approximately 275 feet southwest of drinking water well CW-8
- Vinyl chloride and cis-1,2-dichloroethene concentrations have been increasing since the *Record of Decision* was submitted in June 2021
- Concentrations of vinyl chloride and cis-1,2-dichloroethene have exceeded the Maximum Contamination Level (MCL) routinely since December 2021

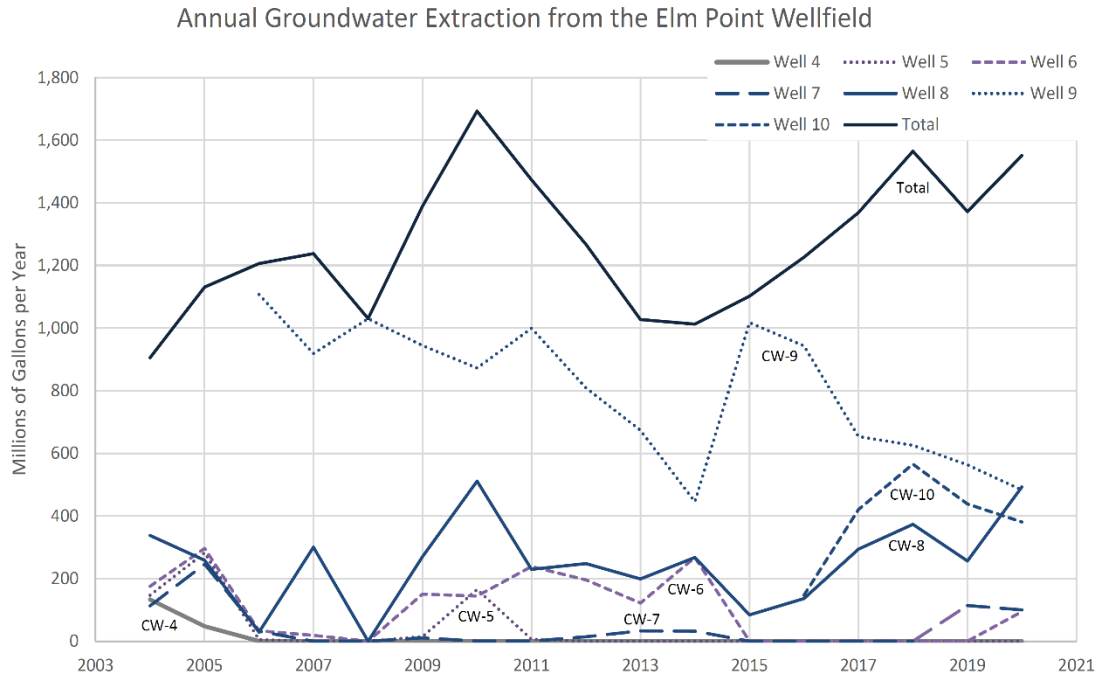


# CONTAMINATION TO DRINKING WATER WELLS

- Trichloroethene and cis-1,2-DCE was first detected in CW-4 in 2000 and in CW-5 in 2010
- Tetrachloroethene, cis-1,2-DCE, vinyl chloride, acetone, ethylbenzene, and xylenes were detected in CW-6 and CW-8 in 2021 and 2022
  - Vinyl chloride concentration in CW-6 exceeded the USEPA MCL in September 2022
- Concerned about increasing concentrations, continued expansion of the plume, and threats to CW-7, CW-9, and CW-10



# CITY OF ST. CHARLES RESPONSE ACTIONS



- Operation of wells CW-4 and CW-5 were discontinued resulting in a loss of 3 million gallons per day of water capacity
- Suspending operation at CW-6 and CW-8 has resulted in additional 3 million gallons per day of lost capacity
- St. Charles purchases drinking water from the City of St. Louis when demand cannot be met
  - > An average of 1 million gallons per day in 2021
  - > An average of 2 million gallons per day in 2022
  - > Cost to the City of St. Charles was \$880,000 through the end of September 2022



# IMMEDIATE DEMANDS

- The City is demanding immediate action be taken by the USEPA and Missouri DNR including:
  - > Prior to recording the Consent Decree, the USEPA and Missouri DNR should host two public meetings informing the City's residents and businesses of the threats to the Elm Point Wellfield and Ameren's final cleanup requirements
  - > USEPA and Missouri DNR should require Ameren Missouri and other responsible parties to immediately design and install upgrades to the City's drinking water treatment plant to remove volatile organic compounds including vinyl chloride and cis-1,2-dichloroethene to ensure the continued safety of the public drinking water
  - > USEPA and Missouri DNR should require Ameren Missouri and other responsible parties to relocate the City wells to an area free of their contamination
    - Replacement of the wells and associated infrastructure would take years to complete and cost in excess of \$40 million
  - > **Any action needs to be taken by November 3, 2022 before the Consent Decree is recorded**



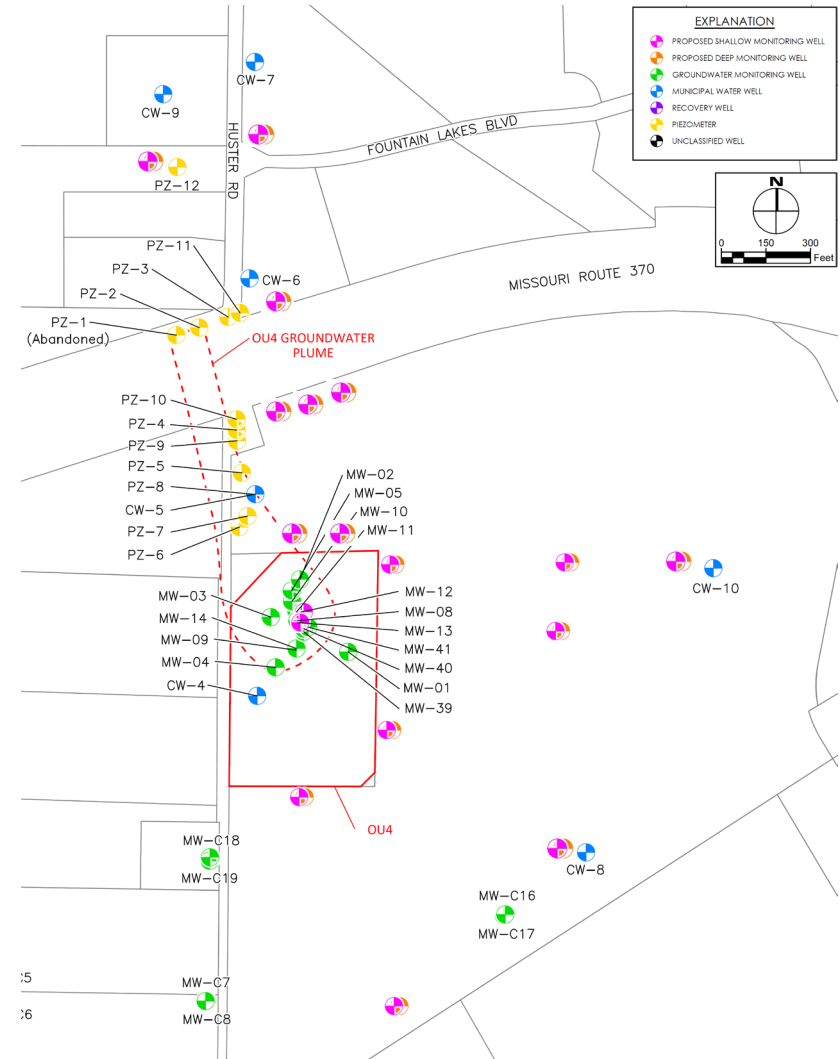
# RECOMMENDATION NO. 1

- ◎ Additional analysis the nature and source of contamination within the Elm Point Wellfield requires information and data from Ameren, Findett, and Cadmus including:
  - > Fluid level data
  - > Borehole log data and well construction as-built diagrams
  - > Fluid level gauging and groundwater sampling field forms
  - > Laboratory-generated electronic data deliverables
  - > Quality Assurance Project Plan
  - > Sampling and Analysis Plan
  - > Routine Summary Reports
  - > Contingency Plans



# RECOMMENDATION No. 2

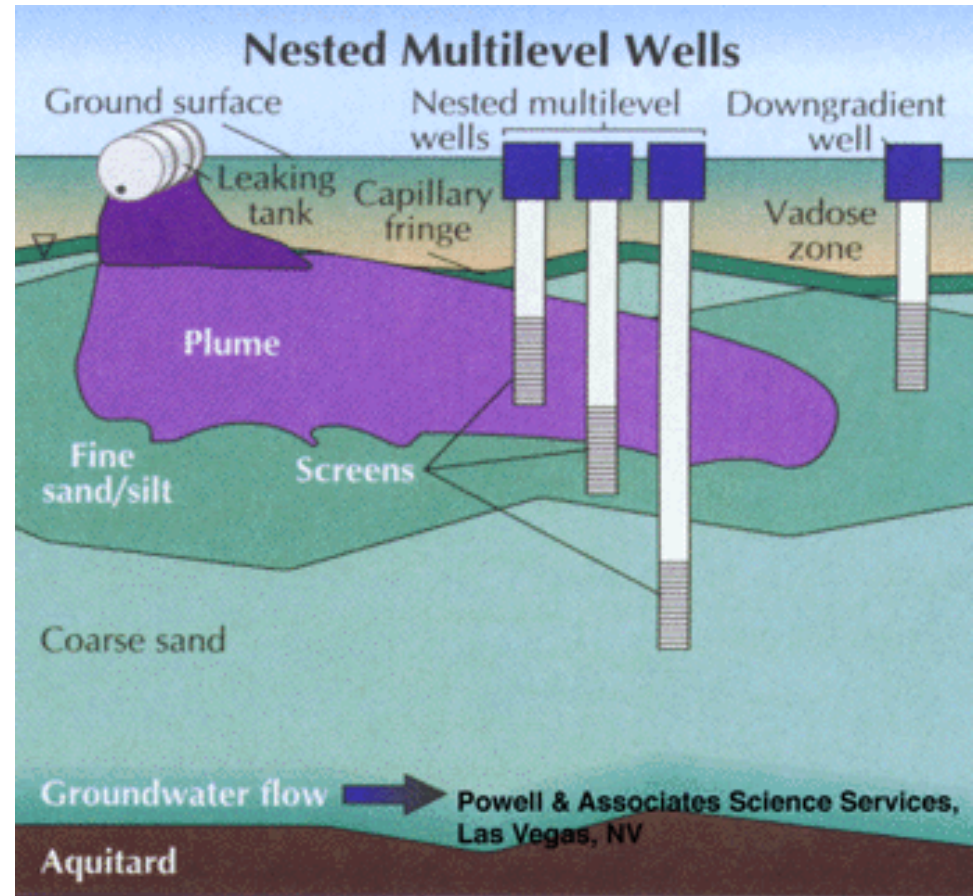
- Additional shallow groundwater monitoring wells should be installed adjacent to existing locations in OU-4
- Additional groundwater monitoring wells should be installed throughout the Elm Point Wellfield to further delineate dissolved phase contamination near all of the production wells





## RECOMMENDATION No. 3

- Groundwater samples should be collected with the pump intake consistently set within the upper 5-feet of the well screen
  - Target contaminants migrating from the overlying source zone in the shallow clay and silt deposits





# RECOMMENDATION Nos. 4, 5, & 6



- Groundwater samples collected within OU-1 through OU-4 should be consistently analyzed for an expanded list of volatile constituents via USEPA Method 8260, including identified COPCs
- Groundwater samples should be consistently analyzed for nitrate as nitrogen via USEPA Method 600
- Groundwater samples should be collected from OU-1 through OU-4 on a quarterly basis for one year and analyzed for emerging and persistent contaminants including dioxins, furans, as well as per- and polyfluoroalkyl substances (PFAS)



# RECOMMENDATION Nos. 7 & 8

- Dissolved phase analytical results should be reported at concentrations that are at or below the USEPA Tapwater RSLs for each constituents when achievable
- Laboratory analytical data should be validated to evaluate precision, accuracy, method compliance, and completeness of the individual data packages
  - A summary of the data validation should be provided within each of the routine monitoring reports



# RECOMMENDATION No. 9

- ◎ Ameren and USEPA should develop a Contingency Plan for events when constituents of concern are detected above the USEPA Tapwater RSLs near the City of St. Charles production wells including:
  - > Primary and alternate contacts including contact details, acceptable forms of communication
  - > Timeframes for notification
  - > Resampling requirements for monitoring
  - > Additional monitoring locations and production wells to be sampled
  - > Investigation activities to evaluate the nature and extent of contaminants
  - > Contingency measures to address contaminants in groundwater
  - > Timeframes required for reporting, sampling, investigation, and contingency measures

# RECOMMENDATION No. 10

- Fluid levels should be concurrently gauged within all OU-1 through OU-4 monitoring locations over one year to validate hydraulic conditions predicted using the updated fate and transport models

